



RELIABILITY GROUP NEWSLETTER

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Editor: Paul Gottfried

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In the "swan song" that is customary upon relinquishing an IEEE position, the principal themes are gratitude for the cooperation and challenges experienced during one's term and best wishes to his successor. I share these, but don't feel that they require elaboration. Instead, I'd like to make a few frank comments about the Newsletter Editor's job and the need for a changing of the guard.

Possibly contrary to appearances, the mechanics of editing this Newsletter are neither difficult nor inordinately time-consuming. As I -- along with every other newsletter editor -- have indicated before, what makes life difficult is the uncertainty, sometimes bordering on despondency, about whether anybody "out there" is listening: does the Newsletter have readers, or just 2,500 addressees?

I think every new editor undertakes the job with a list of ideas on how to obtain more input and response: ideas that may be really new, or that may have been tried and abandoned years earlier. What is important is the trying of ideas, old or new, by someone with enthusiasm. Very few -- I not among them -- can sustain enthusiasm indefinitely, and an unenthusiastic editor ought to drop out, not fade away.

The new Editor, Naomi McAfee, has served as Associate Editor for a year. She also has served as President of the Society of Women Engineers (and editor of its newsletter), as Executive Director and Division Chairman of ASQC, and other capacities outlined in her biography in the July 1973 issue of the Newsletter. I think her enthusiasm will prove durable, but urge all of you to let her know that the Newsletter does have readers.

"Material for the October issue must be in the new Editor's hands by August 23."

Chapter chairmen

Baltimore	Mr. Thomas T. Jackson 601 Bay Hills Drive Arnold, Md. 21012	Montreal	Mr. Duco W. Weytze CAE Electronics, Ltd. P. O. Box 1800 St. Laurent Montreal 379 Quebec, Canada
Binghamton	Mr. Joseph J. Rexford IBM Corporation Dept. 351, 002-1 Owego, N. Y. 13827	New Jersey Coast	Mr. Weldon V. Lane 57 Throckmorton Ave. W. Long Branch, N.J. 07764
Boston	Mr. Norman A. Martel 11 Cunningham Drive Framingham, Mass. 01701	Metropolitan New York	Mr. Joseph R. Fragola 45 Broadway Apt. 1-B Freeport, N. Y. 11520
Canaveral/Daytona	Mr. Case J. VanLeeuwen Harris Semiconductor P. O. Box 883 Melbourne, Fla. 32901	North Jersey	Mr. Everett L. Labagh 409 Colonial Road Ridgewood, N.J. 07450
Chicago	Mr. Hugh Edfors 315 New Castle Road Apt. 6F Naperville, Ill. 60540	Philadelphia	Mr. Irving Hyams Fischer & Porter Co. County Line Road Warminster, Penna. 18974
Cleveland	Mr. Vincent R. Lalli 21000 Brookpark Road MS 54-1 Cleveland, Ohio 44135	Rochester	Mr. Robert C. Foster 221 Forest Hills Road Rochester, N. Y. 14625
Connecticut	Mr. Benjamin M. Tashjian 11 Rondure Road Granby, Conn. 06035	San Francisco	Mr. P. J. Guillot 1029 Tulipan Drive San Jose, Calif. 95129
Florida West Coast	Mr. Robert P. Dalton 2170 College Drive Clearwater, Fla. 33516	Twin Cities	Mr. Gary C. Kulbitski 1412 East 131st Street Burnsville, Minn. 55378
Los Angeles	Mr. Bernard J. DiNardo 1048 E. Palmdale Orange, Calif. 92665	Washington	Mr. Peter J. Mulligan 2500 N. VanDorn Street Alexandria, Va. 22302
Mohawk Valley	Mr. Anthony J. Feduccia RD 2 Box 207B Frankfort, N. Y. 13340		

Group President

Mr. C. R. Knight
ARINC Research Corp.
2551 Riva Road
Annapolis, Md. 21401

Editor

Paul Gottfried
9251 Three Oaks Drive
Silver Spring, Maryland 20901

Associate Editor

Ms. Naomi J. McAfee
Westinghouse Electric Corporation
Defense and Electronic Systems Center
Box 746, M/S 138
Baltimore, Maryland 21203

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Chapter news

Baltimore

The last meeting of the 1973-74 year was held on May 20, when Carl Wigginton - Head of the Reliability/Maintainability Section of the Avionics Naval Air Systems Command, and Robert Saum - Chief of the Systems Effectiveness Branch of the Crane Naval Air Depot, spoke on "New Developments in Predictions". The following officers were elected for the 1974-75 term:

Chairman	Frank Lee
Vice Chairman	Eugene Levitt
Secretary/Treasurer	Carol Lehtola

Boston

The Boston Chapter completed its 1973-74 schedule of activities with a chapter meeting and a chapter sponsored seminar. In March, approximately 30 members heard Ken Hall of Digital Equipment Corporation speak on the subject of microelectronics reliability and its impact on systems reliability. In April, some 100 attendees heard eight speakers present their papers at the 12th Annual All-Day Spring Reliability Seminar. The theme of this year's seminar, "New Tools for Assurance Technologies", elicited papers covering such topics as reliability modeling, parts reliability, maintainability test risks, product liability, and maintainability/reliability design tools. At the seminar, the officers for the 1974-75 term were announced:

Chairman	Norman A. Martel
Vice Chairman	Amy C. Spear
Secretary	William P. McCabe
Treasurer	H. Larue Renfroe
All-Day Seminar Chairman	Eugene R. Carrubba

Canaveral/Daytona

The last meeting of the 1973-74 season was held May 14. Dr. J. L. Davidson, Director of Product Assurance at Harris Semiconductor, discussed "Product Assurance at Harris Semiconductor".

Chicago

The Chicago Chapter completed its program for the year with a meeting held April 11. Mr. R. W. Peach, Manager, Quality Assurance, Sears, Roebuck and Company, discussed "Using Field Service Experience To Improve Product Reliability". The new officers for the 1974-75 year are:

Chairman	Hugh Edfors GTAX Company 315 New Castle Road, Apt. 6F Naperville, Illinois 60540
Vice Chairman	Ray Schirmer General Time Company 3919 Gull Court Rolling Meadows, Illinois 60008
Secretary/Treasurer	Henry Buschke Zenith Corporation 5855 N. Sheridan Road Chicago, Illinois 60626

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Metropolitan New York

On May 1, 1974, Dr. D. Scarl, Polytechnic Institute of New York, discussed "Nuclear Fission". This was followed by a meeting on May 29, when Mr. Louis Korn spoke on "Reliability in Nuclear Reactor Power Systems".

Philadelphia

The final meeting of the season was held on April 18. One hundred people, including 26 members of the Baltimore Chapter, visited the Peach Bottom Atomic Power Station. A paper, "Quality Assurance from Design to Decommissioning of a Nuclear Power Plant", was presented by James Cororan of the Philadelphia Electric Company. A tour of Nuclear Unit 1, the helium-cooled reactor, followed.

San Francisco

The May 15 meeting consisted of a panel discussion and demonstration on "The Programmable Hand Calculators Are Here". The panel members were Mr. R. Kicienski, Computer Design Corporation, and Mr. Fred Sommer, Hewlett-Packard.

Washington

On March 21, Dr. Nozer Singpurwalla of The George Washington University spoke on "Forecasting of Failure Rates". At the May 15 meeting, Mrs. Patricia Field of the Naval Ship R&D Center discussed "Computer Determination of Fault Trees". The final meeting of the year was held June 19 when Mr. John H. Awl of John H. Awl & Associates spoke on "There Ought To Be a Law - A Look at Consumer Product Reliability". The following officers have been elected for the 1974-75 year:

Chairman	Welfred M. Redler National Highway Traffic Safety Admin. 3905 Montrose Drive Chevy Chase, Md. 20015
Executive Vice Chairman	Claude F. Veraa Watkins-Johnson Company 4813 Kemper Street Rockville, Md. 20853
Program Vice Chairman	Irwin A. Feigenbaum Comsat Laboratories 5537 Marlin Street Rockville, Md. 20853
Secretary	Terry S. Meek Naval Air Systems Command 2523 Buckelew Drive Falls Church, Va. 22046

SYRACUSE CHAPTER ESTABLISHED

The establishment of a Reliability Group Chapter of the Syracuse Section was approved May 9. Pending the holding of elections and the reporting of election results to IEEE, chapter organizer Andrew P. Kordalewski is listed as Interim Chairman. The Newsletter joins IEEE in best wishes for the successful operation of this new Chapter.

Nominations Solicited

Section 6.1 of the G-R Bylaws provides: "A slate of nominees for members-at-large vacancies shall be prepared by the Nominating Committee. Recommendations for such nominees shall be solicited by letter to the Chairman of all Sub-Groups and Standing Committees. In addition, the Chairman of the Nominating Committee shall cause to be published and distributed to the entire group membership a call for nominations. A nominating petition carrying a minimum of 25 names of Group Members, excluding students, shall automatically place that nominee on the slate to be presented to the "AdCom"."

Six vacancies will be created by the expiration of the three-year terms (on December 31, 1974) of the following:

*P. Gottfried
K. Greene
*C. R. Knight
D. S. Peck
M. L. Shooman
*H. D. Williams

*Has served two consecutive terms and is not eligible for re-election until after a lapse of one year.

The Nominating Petition may be forwarded no later than September 1, 1974, to:

AdCom

V. R. Monshaw
Chairman, Nominating Committee
RCA Astro Division, MS 76
Box 800
Princeton, New Jersey 08540

Dave Troxel Appointed to AdCom

G-R Secretary David I. Troxel of RCA has been named to replace AdCom electee J. M. Wjesen, who was unable to accept membership.

Appointments of Interest

D. F. Barber of RADC and D. S. Peck of Bell Telephone Laboratories have been appointed G-R representatives on the Board of the Reliability Physics Symposium. P. Gottfried represents G-R on the Board of the Product Liability Prevention Conference. All are members of the AdCom.

Russell Marhefka has joined the IEEE Standards Office to put together a plan for certification of safety-related electrical equipment in nuclear-powered generating stations. The program, which will be submitted to the IEEE Board of Directors, is expected to certify manufacturers who meet quality assurance requirements under the AEC's 10 CFR 50. ASME has a similar program for manufacturers of mechanical components.

Call for Award Nominees

The IEEE Fellow Committee annually reviews nominations submitted by April 30. Preparation and processing of nominations is a demanding and time-consuming procedure.

G-R members wishing to initiate nominations may identify candidates at any time by contacting Val Monshaw, RCA Astro Division, MS 76, Box 800, Princeton, New Jersey 08540. Those wishing to prepare nominations outside G-R channels may obtain kits from Miss Emily Sirjane, IEEE, 345 East 47th Street, New York, N. Y. 10017.

G-R makes its Annual Reliability Award for outstanding contributions to reliability technology and/or management. This award is presented at the Annual Symposium; the recipient is selected by August.

As a Group, we also nominate potential recipients for the IEEE Awards summarized in the following table. Any member wishing to suggest nominees for these awards or the Annual Reliability Award also should contact Val Monshaw.

Name of Award	Deadline	Given For (Qualifications)
Edison Award	June 1	"A career of meritorious achievements in Electrical Science or Electrical Engineering or electrical arts". The award is a gold medal and certificate.
Founders Medal	June 1	"Major contributions in leadership, planning, and administration of affairs of great value to the Electrical and Electronics Engineering profession". The award is a gold medal and certificate.
IEEE Education Medal	June 1	"Outstanding contributions to Education". The award is a gold medal and a certificate.
Harry Diamond Award	April 1	"Outstanding contributions in the Government Service as evidenced by publication in professional Society journals". The award is \$1,000 and a certificate.
Morris N. Liebman Award	April 1	"Most important contributions to Emerging technologies recognized not earlier than 3 calendar years preceding the adjudication year". The award is \$1,000 and a certificate.
WRG Baker Award	Sept. 15	"Most outstanding paper in the Transactions of the Groups published during the period July 1 through June 30". The award is \$1,000 and a certificate.
Browder J. Thompson Award	Sept. 15	"Best paper in any IEEE publication issued between July 1 and June 30". The author, or joint authors, must not have reached the age of 30 at the date of manuscript submission. The award is \$1,000 and a certificate.

International Lecture Tour

Articles in various IEEE publications, including this Newsletter, have sought to encourage lectures by members traveling outside the U.S. Dr. O. D. Trapp, who has been very active in the Reliability Physics Symposia, is scheduled to make several presentations in the course of a business trip to the Far East in July; one of his hosts will be the Physical Society of Hong Kong.

Other members interested in lecturing while traveling should contact Dr. Pete D. Edmonds at IEEE Headquarters.

Call for Papers

IEEE TRANSACTIONS ON RELIABILITY SPECIAL ISSUE DEVOTED TO ACCELERATED TESTING

The Editorial Board of the IEEE Transactions on Reliability is planning a special issue of invited papers on the subject of accelerated testing. The basic objective is to provide a literary forum for the exchange of information among systems/reliability engineers, test/evaluation engineers, mathematical modelers, and other investigators active in developing accelerated testing technology.

Invitation is extended to authors of previously unpublished papers dealing with accelerated testing technology in the following (or related) areas:

Testing Techniques	Methods of Analysis
Data Acquisition	Prediction
Simulation	Validation
Modeling	Test Costs

In order to assist the board in planning the special issue, cooperation of prospective authors is solicited with the following target dates:

15 July 1974	- Author's letter of commitment
19 August 1974	- An abstract of 300-500 words and biographical sketch
2 December 1974	- Three copies of full text draft not to exceed 25 double-spaced typed manuscript pages to editor of special issue
1 Jan-28 Feb 1975	- Author - referee consultations

Letters of commitment containing brief description of paper essence, or letters of inquiry should be addressed to:

Dr. Ray E. Schafer
Hughes Aircraft Company
P. O. Box 3310
Bldg. 606, Mail Stop K210
Fullerton, California 92634

INTERNATIONAL CONFERENCE ON RELIABLE SOFTWARE

The 1975 International Conference on Reliable Software, sponsored by the IEEE Computer Society and Reliability Group and the ACM SIGPLAN and SIGMETRICS, will be held at the International Hotel, Los Angeles, California, on April 22-25, 1975. The Conference objective is to bring together theoreticians, tool-developers, and practitioners for an exchange of results, concepts, experience, and conjectures contributing to the achievement of reliable software.

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The Conference general chairmen are Prof. Martin L. Shooman, Polytechnic Institute of New York and Prof. Raymond Yeh, University of Texas-Austin.

The three day conference will feature a varied program of contributed papers, tutorial presentations, and invited papers by leading authorities in the field of reliable software. Other features planned for the conference include evening panel discussions and ad-hoc discussions. A proceedings volume will be provided to all participants at registration time.

Papers covering a broad range of subject areas will be selected for the conference. Contributed papers reporting on original, unpublished work in the field of reliable software are requested in the following major subject areas:

1. Theory of Reliable Software
 - Proofs of program correctness
 - Precise specification methods
 - Program transformations preserving correctness
 - Systematic program testing
2. Aids to Constructing Reliable Software
 - Design verification tools and techniques
 - Program construction tools and techniques
 - Implications for programming language design
 - Implications for hardware design
3. Testing and Estimation of Software Reliability
 - Testing tools and techniques
 - Evaluation of alternative software failure models
 - Software reliability estimation techniques
 - Software error data collection and analysis
4. Practical Aspects of Reliable Software
 - Reports of practical experience
 - Management and motivational approaches
 - Quality control
 - Maintenance of reliable software
5. Related Topics
 - Impact of reliability on software quality and cost
 - Legal liability for programming errors
 - Fault-tolerant software
 - Security and privacy.

All manuscripts will be formally reviewed.

The formal deadline for submittal (in duplicate) of a 250-word advance abstract is July 15, 1974; late submittals will be entertained in view of this Newsletter's mailing date, but prospective authors are urged to respond as soon as possible. Abstracts are to be headed by the author's name, title, affiliation, complete address, telephone number, and paper title. Four copies of a full-text manuscript, including all figures and references, will be due by October 1. All abstracts and manuscripts should be submitted directly to:

Dr. Barry W. Boehm
TRW Systems Group
One Space Park, E1/5017
Redondo Beach, California 90278, USA

Employment Notices

No employment requests have been received for some time, but the Newsletter will continue to accept both "Help Wanted" and "Position Wanted" notices on a no-charge basis subject to the following rules:

- Notices will appear in two successive issues unless cancellation notice is received before editorial deadlines.
- Text for each notice will be limited to ten lines plus identification, with a maximum of 45 characters and spaces per line.
- Notices may be open or blind, but blind "Help Wanted" notices should identify the type of business and the general geographic location of the vacancy.
- Submittals of "Position Wanted" notices should include IEEE membership number.
- "Help Wanted" notices must fall in the "Equal Opportunity - M&F" category. Agreement to this requirement will be considered to be implied by the submittal of the notice and need not appear in the text.

Free Offer

Some copies of the proceedings of the 1973 Product Liability Prevention Conference (PLP-73; August) remain available for FREE distribution to G-R members. There is no charge at all for U.S. destinations; sea mail book rate charges, and charges for more rapid forms of shipment to all destinations if requested, will be billed at cost to the requestor. Please indicate G-R chapter and membership number in your request, to be addressed to:

Prof. R. M. Jacobs
Newark College of Engineering
323 High Street
Newark, New Jersey 07102

publications

From the IEEE Press, 345 East 47th Street, New York, N. Y. 10017:

Key Papers in the Development of Information Theory (a volume of selected reprints, edited by David Slepian). 472 pages; paperbound member edition, \$7.50; clothbound \$13.95 (member price \$11.20).

From the National Bureau of Standards, available through the Superintendent of Documents, U.S. Government Printing Office, Washington, D. C. 20402:

Methods for Testing Wire-Bond Electrical Connections, NBS Tech Note 786, November 1973, SD Catalog No. C13.46:786, 23 pages, \$0.50.

Microelectronic Ultrasonic Bonding (Selected work from the NBS Microelectronic Bonding Project), January 1974, SD Catalog No. C13.10:400-2, 109 pages, \$1.25.

Semiconductor Measurement Technology: ARPA/NBS Workshop I, Measurement Problems in Integrated Circuit Processing and Assembly, February 1974, SD Catalog No. C13.10:400-3, 24 pages, \$0.60.

COURSES

-short

Newsletter policy with respect to short-course announcements, as established by the AdCom, is to provide publication for information only. No endorsement is implied, and no check on course content or instructor qualifications has been accomplished.

University of California, Berkeley

Conference on Reliability and Fault Tree Analysis: September 3-7. Five days, \$25. Contact: P. Chatterjee, Operations Research Center, University of California, Berkeley, California 94720

University of California at Los Angeles

Fundamentals of Non-Destructive Testing: August 12-16. Five days, \$345. Contact: Continuing Education in Engineering and Mathematics, University Extension, UCLA, P. O. Box 24902, Los Angeles, California 90024

System Safety: September 9-13. Five days, \$345.

Software Reliability: October 21-25. Five days, \$345.

Software Configuration Management: November 4-8. Five days, \$345.

Detroit Research Institute

Product Reliability Seminar: September 23-27. Five days, \$345. Contact: Detroit Research Institute, 21900 Greenfield Road, Oak Park, Michigan 48237

Reliability and Maintainability Seminar: October 21-23. Three days, \$250.

Special Topics in Reliability Seminar: November 4-8. Five days, \$345.

Massachusetts Institute of Technology

Risk and Decision Analysis: Concepts, Methods, and Applications: August 19-30. Ten days, \$750. Contact: Director of the Summer Session, Massachusetts Institute of Technology, Cambridge, Massachusetts 02139

University of Michigan

New Concepts in Reliability: The Interface of Design, Materials and Manufacturing: July 29-August 2. Five days, \$275. Contact: Engineering Summer Conferences, Chrysler Center-North Campus, The University of Michigan, Ann Arbor, Michigan 48105

Operations Research and the Management Sciences A: Methods and Tools: July 29-August 2; B: Recent Developments: August 5-9. Either five days, \$300; both, \$500.

Design and Analysis of Engineering Experiments: August 12-23. Either five days, \$275; ten days, \$400.

University of Southern California

Diagnosis and Reliable Design of Digital Systems: July 29-August 2. Five days, \$325. Contact: University of Southern California, Continuing Engineering Education, Powell Hall 212, University Park, Los Angeles, California 90007

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SHORT COURSES.....

Virginia Polytechnic Institute and State University

Engineering Economic Analysis with Emphasis on Cost Effectiveness/Life Cycle Costing: September 10-12. Three days, \$100. (To be held at VPI Dulles Airport facility) Contact: Prof. Ben S. Blanchard, College of Engineering, VPI & SU, Blacksburg, Virginia 24061

The George Washington University

Configuration Management: August 20-24. Five days, \$255. Contact: Director, Continuing Engineering Education, The George Washington University, Washington, D. C. 20006

Engineering Measurements of Man-Machine Performance: August 27-29. Three days, \$315.

Design to Cost: September 9-10. Two days, \$205.

PLP-74 To Hear CPSC Commissioner

The 1974 Product Liability Prevention Conference will open with a review of the first year's operation of the Consumer Product Safety Commission by one of the Commissioners. It will close three days later with a panel discussion on industry responses after a liability action has been filed. As another "first", Newark College of Engineering will award a certificate to those whose attendance will help them meet continuing professional education requirements. G-R members receive a \$25 sponsor member discount from the \$275 door and \$250 advance registration fees.

conferences

- August 5-10 IFIP Congress 74: Sixth Triennial Meeting & Exhibition (International Federation for Information Processing) and First World Conference on Medical Informatics, St. Eric's Fair, Stockholm, Sweden
- August 21-23 IEEE International Conference on Engineering in the Ocean Environment (Canadian Atlantic Section, Oceanography Coordinating Committee), Hotel Nova Scotian, Halifax, Nova Scotia
- August 21-23 1975 Product Liability Prevention Conference (PLP-74) (G-R, Newark College of Engineering, et al.), Newark College of Engineering, Newark, New Jersey
- September 10-13 1974 IEEE COMPCON FALL (S-C), Mayflower Hotel, Washington, D. C.
- October 1-3 1974 Semiconductor Test Symposium -- Memory and LSI (S-C and Philadelphia Section), Rickshaw Inn, Cherry Hill, New Jersey
- October 7-9 1974 Electronic and Aerospace Systems Conference (EASCON), Marriott Twin Bridges Hotel, Washington, D. C.
- October 9-10 1974 Conference on Display Devices and Systems (G-ED, SID, AGED), Statler Hilton Hotel, New York, New York
- October 16-18 Joint National Meeting, Operations Research Society of America, and The Institute of Management Sciences, Americana and El San Juan Hotels, San Juan, Puerto Rico
- October 23-24 Seventh Annual Connector Symposium (Electronic Connector Study Group, Inc.), Cherry Hill Inn, Cherry Hill, New Jersey
- October 27-31 IEEE 1974 International Symposium on Information Theory, University of Notre Dame, South Bend, Indiana
- December 9-11 1974 IEEE International Electron Devices Meeting (G-ED), Washington Hilton Hotel, Washington, D. C.
- 1975
- January 21-22 1975 IEEE Vehicular Technology Conference, (G-VT), Royal York Hotel, Toronto, Ontario, Canada
- January 26-31 1975 IEEE Power Engineering Society Winter Meeting, Statler Hilton Hotel, New York, New York
- January 28-30 1975 Annual Reliability and Maintainability Symposium (G-R, ASQC, ASME, AITE, ASM, AIAA, IES), Sheraton Park Hotel, Washington, D. C.
- April 22-25 1975 International Conference on Reliable Software (G-R, S-C, ACM), International Hotel, Los Angeles, California